

C. CIP Database Schemas

This appendix forms an integral part of the CIP specification.

This appendix contains the *Abstract Record Structure* for the CIP *database schemas*, and so provides a definition of the *schemas*. In addition to that, it defines which *elements* in the *schemas* may be used as search criteria, and what part of the different *schemas* is retrieved using the various *element set names* supported by the CIP.

C.1 Introduction

The *abstract record structure* uses the *element* definitions provided in the CIP *tag sets* defined in Appendix B as building blocks and combines them to yield *schema elements*. This appendix describes the CIP *schemas*, presenting how the *elements* defined in the CIP *tag set* are combined to form the CIP *schema elements*. In addition to that, it indicates whether or not the various *schema elements* are included in the *retrieval record* when a specific CIP *element set* is applied ("O" indicates that the *schema element* is included in the *element set*, whereas "X" indicates that the *schema element* is not included in the *element set*).

The following information is provided for each *schema element*:

- **Tag Path**, which contains the relative *tag path* of the *schema element*.
- **Element Name**, which contains the name of the *schema element*.
- **Element Set Name**, which contains the various *element set names* and indicates whether a *schema element* is selected for the named *element set* or not. The following element sets are defined for the CIP:
 - **Full**, which is used for the retrieval of a full record, i.e. everything included in an item descriptor.
 - **CIP F (CIP Full)**, which is used for the retrieval of a full CIP record, i.e. everything included in an item descriptor except for local attributes.
 - **Brief**, which is used for the retrieval of a brief record.
 - **Summary**, which is used for the retrieval of a summary record providing interoperability with the GEO^[GEO] Summary *element set*.
 - **Br. (Browse)**, which is used for the retrieval of browse data.
 - **Opt. (Option)**, which is used for the retrieval of options.
 - **LA (Local Attributes)**, which is used for the retrieval of local attributes.
 - **CM (Collection Management)**, which is used for the retrieval of collection management information.

Note that to determine the full *tag path* and full *schema element* name of an *element* described in the table, the *tag path* and *element* name must be concatenated in accordance to the production rules used to describe the *element* names. For instance, the full *tag path* for the *schema element* defined with the composition rule 'CollectionDescriptor + Review + ScienceReview + ScienceReviewDate' is (4,4019)/(4,4103)/(4,4109)/(4,3702). and its full *schema element* name is 'CollectionDescriptorReviewScienceReviewScienceReviewDate'.

C.2 Production Rules

A production rule specifies the relationship between a compound *element*, and data *elements*, or other (lower level) compound *elements*. Each production rule has a left side (identifier) and right side (expression) term connected by the symbol ‘=’, meaning that the term on the left side is replaced by or produces the term on the right side. Terms on the right side are either other compound elements or simple data elements. For readability, compound elements are shown in **bold**.

The symbols used in the production rules are defined as follows:

Table C-1: Production Rules Conventions

Symbol	Meaning
=	is replaced by, produces, consists of
+	AND (i.e. concatenation)
[ | ]	selection: select one term from the list of enclosed terms (exclusive OR). Terms are separated by ‘|’
m{ }n	iteration: the term(s) enclosed is (are) repeated from ‘m’ to ‘n’ times Note that a special case is the use of the symbol 0{ }1 described below.
0{ }1	mandatory if applicable
()	optional: the term(s) enclosed is(are) optional.

C.3 Abstract Record Structure

This section contains the CIP *Abstract Records Structure*. Table C-2 contains the ARS for each item descriptor. The ARS for the sub-elements used by the item descriptors is defined in alphabetical order in Table C-3. An 'O' in the *Element Set Name* column indicates that the element is included in the *element set* whereas an 'X' in the *Element Set Name* column indicates that the element is not included in the *element set*.

Table C-2: CIP Item Descriptors ARS

Tag Path	Element Name	Element Set Name								
		Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM	
(4 , 4019)	CollectionDescriptor	=	O	O	O	O	O	O	O	
(4 , 4019) / (4 , 12)	ItemDescriptorId	+	O	O	O	O	O	X	O	
(4 , 4019) / (4 , 4006)	(Authoritative)	+	O	O	X	X	X	X	O	
(4 , 4019) / (4 , 4)	ItemDescriptorName	+	O	O	O	X	X	X	O	
(4 , 4019) / (4 , 4044)	(ItemDescriptorLongName)	+	O	O	O	X	X	X	O	
(4 , 4019) / (4 , 4043)	ItemDescriptorLanguage	+	O	O	X	X	X	X	X	
(4 , 4019) / (4 , 4022)	CollectionType	+	O	O	O	X	X	X	O	
(4 , 4019) / (4 , 4034)	0 { IncludedItemDescriptors }	1 1	+	O	O	X	X	X	O	
(4 , 4019) / (4 , 4098)	0 { RelatedItemDescriptors }	1 2	+	O	O	O	X	X	O	
(4 , 4019) / (4 , 4078)	ProductCollectionSpecific		+	O	O	O	O	O	X	
(4 , 4019) / (4 , 2003)	Purpose		+	O	O	O	X	X	X	
(4 , 4019) / (4 , 62)	Abstract		+	O	O	O	O	X	O	
(4 , 4019) / (4 , 3108)	Progress		+	O	O	X	X	X	X	
(4 , 4019) / (4 , 4124)	VersionId		+	O	O	X	X	X	X	
(4 , 4019) / (4 , 4104)	Revision		+	O	O	X	X	X	X	
(4 , 4019) / (4 , 4103)	(Review)		+	O	O	X	X	X	X	
(4 , 4019) / (4 , 3000)	1 { Contact }	n	+	O	O	X	X	X	X	
(4 , 4019) / (4 , 2004)	AccessConstraints		+	O	O	X	X	X	X	
(4 , 4019) / (4 , 2005)	UseConstraints		+	O	O	X	X	X	X	
(4 , 4019) / (4 , 4024)	0 { DataCentre }	1 3	+	O	O	X	X	X	X	
(4 , 4019) / (4 , 3121)	Keywords		+	O	O	X	O	X	X	
(4 , 4019) / (4 , 4053)	0 { Locality }	1 4	+	O	O	X	X	X	X	
(4 , 4019) / (4 , 3101)	0 { ExternalPublicationCitation }	1 5		O	O	X	X	X	X	

Tag Path	Element Name	=	Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4080)	ProductDescriptor	=	O	O	O	O	O	O	O	X
(4 , 4080) / (4 , 12)	ItemDescriptorId	+	O	O	O	O	O	O	X	X
(4 , 4080) / (4 , 4006)	(Authoritative	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4043)	(ItemDescriptorLanguage	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4045)	(ItemLanguage	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 62)	(Abstract	) +	O	O	O	O	X	X	X	X
(4 , 4080) / (4 , 2062)	TemporalCoverage	+	O	O	O	O	X	X	X	X
(4 , 4080) / (4 , 4119)	(TemporalResolution	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 2059)	SpatialCoverage	+	O	O	O	O	O	X	X	X
(4 , 4080) / (4 , 4115)	(SpatialResolution	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4125)	0 { VerticalExtent	} 1 6 +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 3400)	(SpatialReference	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4107)	0 { Scale	} 1 7 +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4000)	(Acquisition	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4004)	(ArchivingCentreId	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4061)	0 { OrderingCentreId	} 1 8 +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4073)	0 { ProcessingCentre	} 1 9 +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4026)	DataOriginator	+	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 2058)	0 { GeneralKeyword	} n +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4100)	(Reprocessing	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 3137)	0 { Browse	} n +	O	O	X	O	O	O	X	X
(4 , 4080) / (4 , 4084)	0 { ProductServiceOptions	} 1 10 +	O	O	X	X	X	O	X	X
(4 , 4080) / (4 , 4057)	0 { LocalSchemaElements	} 1 11 +	O	X	X	X	X	X	O	X
(4 , 4080) / (4 , 4090)	(QAProductStatistics	) +	O	O	X	X	X	X	X	X
(4 , 4080) / (4 , 4098)	0 { RelatedItemDescriptors	} 1 12 +	O	O	O	O	X	X	X	X
(4 , 4122)	UserDescriptor	=	O	O	O	X	X	X	X	X
(4 , 4122) / (4 , 4123)	UserId	+	O	O	O	X	X	X	X	X
(4 , 4122) / (4 , 4064)	(Password	) +	O	O	X	X	X	X	X	X
(4 , 4122) / (4 , 2023)	(PersonName	) +	O	O	O	X	X	X	X	X
(4 , 4122) / (4 , 3006)	(Address	) +	O	O	X	X	X	X	X	X
(4 , 4122) / (4 , 2032)	(TelephoneNumber	) +	O	O	X	X	X	X	X	X
(4 , 4122) / (4 , 2033)	(FaxNumber	) +	O	O	X	X	X	X	X	X
(4 , 4122) / (4 , 2030)	(EmailAddress	) +	O	O	X	X	X	X	X	X
(4 , 4122) / (4 , 3618)	(NetworkAddress	)	O	O	X	X	X	X	X	X

Table C-3: CIP Sub-Elements ARS

Tag Path	Element Name	Element Set Name							
		Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4000)	Acquisition =	O	O	X	X	X	X	X	X
(4 , 4000) / (4 , 4001)	AcquisitionStation +	O	O	X	X	X	X	X	X
(4 , 4000) / (4 , 4002)	(AcquisitionStatus)	O	O	X	X	X	X	X	X
(4 , 3006)	Address =	O	O	X	X	X	X	X	X
(4 , 3006) / (4 , 2025)	StreetAddress +	O	O	X	X	X	X	X	X
(4 , 3006) / (4 , 2026)	City +	O	O	X	X	X	X	X	X
(4 , 3006) / (4 , 2027)	State +	O	O	X	X	X	X	X	X
(4 , 3006) / (4 , 2028)	PostalCode +	O	O	X	X	X	X	X	X
(4 , 3006) / (4 , 2029)	Country	O	O	X	X	X	X	X	X
(4 , 3467)	AltitudeSystem =	O	O	X	X	O	X	X	X
(4 , 3467) / (4 , 3468)	AltitudeDatumName +	O	O	X	X	O	X	X	X
(4 , 3467) / (4 , 3469)	1 { AltitudeResolution } n	O	O	X	X	O	X	X	X
(4 , 4007)	Band =	O	O	X	X	X	X	X	X
(4 , 4007) / (4 , 4008)	BandId +	O	O	X	X	X	X	X	X
(4 , 4007) / (4 , 4009)	BandMode	O	O	X	X	X	X	X	X
(4 , 2060)	BoundingRectangle =	O	O	O	O	O	X	X	X
(4 , 2060) / (4 , 2038)	WestBoundingCoordinate +	O	O	O	O	O	X	X	X
(4 , 2060) / (4 , 2039)	EastBoundingCoordinate +	O	O	O	O	O	X	X	X
(4 , 2060) / (4 , 2040)	NorthBoundingCoordinate +	O	O	O	O	O	X	X	X
(4 , 2060) / (4 , 2041)	SouthBoundingCoordinate	O	O	O	O	O	X	X	X
(4 , 3137)	Browse =	O	O	X	O	O	O	X	X
(4 , 3137) / (4 , 4013)	BrowseId +	O	O	X	O	O	O	X	X
(4 , 3137) / (4 , 62)	Abstract +	O	O	X	O	O	X	X	X
(4 , 3137) / (4 , 4011)	0 { BrowseData } 1 ¹³ +	X	X	X	X	O	X	X	X
(4 , 3137) / (4 , 4015)	BrowseServiceOptions +	O	O	X	O	O	O	X	X
(4 , 3137) / (4 , 2062)	(TemporalCoverage) +	O	O	X	O	O	X	X	X
(4 , 3137) / (4 , 2059)	(SpatialCoverage) +	O	O	X	O	O	X	X	X
(4 , 3137) / (4 , 3400)	(SpatialReference) +	O	O	X	X	O	X	X	X
(4 , 3137) / (4 , 4004)	(ArchivingCentreId)	O	O	X	X	O	X	X	X
(4 , 4011)	BrowseData =	X	X	X	X	O	X	X	X
(4 , 4011) / (4 , 4041)	[ItemData] ¹³ |	X	X	X	X	O	X	X	X
(4 , 4011) / (4 , 4121)	URLPointer]	X	X	X	X	O	X	X	X

Tag Path	Element Name		Element Set Name							
			Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4012)	BrowseDeliveryOptions	=	O	O	X	O	O	O	X	X
(4 , 4012) / (4 , 3614)	ItemSize	+	O	O	X	X	O	O	X	X
(4 , 4012) / (4 , 3140)	BrowseFormat	+	O	O	X	O	O	O	X	X
(4 , 4012) / (4 , 4010)	0 { BrowseCompression } 1 ¹⁴		O	O	X	X	O	O	X	X
(4 , 4014)	BrowseRetrievalOptions	=	O	O	X	O	O	O	X	X
(4 , 4014) / (4 , 4033)	(GroupId)	+	O	O	X	X	O	O	X	X
(4 , 4014) / (4 , 4012)	1 { BrowseDeliveryOptions }	n	O	O	X	O	O	O	X	X
(4 , 4015)	BrowseServiceOptions	=	O	O	X	O	O	O	X	X
(4 , 4015) / (4 , 4014)	1 { BrowseRetrievalOptions }	n	O	O	X	O	O	O	X	X
(4 , 4017)	Circle	=	O	O	O	O	O	X	X	X
(4 , 4017) / (4 , 4071)	Point	+	O	O	O	O	O	X	X	X
(4 , 4017) / (4 , 4093)	RadiusValue		O	O	O	O	O	X	X	X
(4 , 4022)	CollectionType	=	O	O	O	X	X	X	X	O
(4 , 4022) / (4 , 4020)	CollectionHierarchyCategory	+	O	O	O	X	X	X	X	O
(4 , 4022) / (4 , 4021)	CollectionHierarchyPosition	+	O	O	O	X	X	X	X	O
(4 , 4022) / (4 , 4018)	CollectionCategory		O	O	O	X	X	X	X	O
(4 , 3000)	Contact	=	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 2023)	PersonName	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 3005)	JobPosition	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 2024)	OrganisationName	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 3018)	(Instructions)	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 2013)	(HoursOfService)	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 4106)	Role	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 3006)	Address	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 2030)	0 { EmailAddress } n	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 2032)	0 { TelephoneNumber } n	+	O	O	X	X	X	X	X	X
(4 , 3000) / (4 , 2033)	0 { FaxNumber } n		O	O	X	X	X	X	X	X
(4 , 4024)	DataCentre	=	O	O	X	X	X	X	X	X
(4 , 4024) / (4 , 4025)	DataCentreName	+	O	O	X	X	X	X	X	X
(4 , 4024) / (4 , 3000)	Contact		O	O	X	X	X	X	X	X
(4 , 4026)	DataOriginator	=	O	O	X	X	X	X	X	X
(4 , 4026) / (4 , 4062)	Originator	+	O	O	X	X	X	X	X	X
(4 , 4026) / (4 , 4085)	0 { ProjectName } n	+	O	O	X	X	X	X	X	X
(4 , 4026) / (4 , 4070)	0 { Platform } n		O	O	X	X	X	X	X	X

Tag Path	Element Name		Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4027)	DeliveredAlgorithmPackage	=	O	O	X	X	X	X	X	X
(4 , 4027) / (4 , 4003)	AlgorithmPackageName	+	O	O	X	X	X	X	X	X
(4 , 4027) / (4 , 2003)	Purpose	+	O	O	X	X	X	X	X	X
(4 , 4027) / (4 , 62)	Abstract	+	O	O	X	X	X	X	X	X
(4 , 4027) / (4 , 4124)	VersionId	+	O	O	X	X	X	X	X	X
(4 , 4027) / (4 , 4104)	Revision	+	O	O	X	X	X	X	X	X
(4 , 4027) / (4 , 4117)	SWPackagePointer	+	O	O	X	X	X	X	X	X
(4 , 4027) / (4 , 4028)	DocumentPointer		O	O	X	X	X	X	X	X
(4 , 3472)	DepthSystem	=	O	O	X	X	O	X	X	X
(4 , 3472) / (4 , 3473)	DepthDatumName	+	O	O	X	X	O	X	X	X
(4 , 3472) / (4 , 3474)	1 { DepthResolution } n		O	O	X	X	O	X	X	X
(4 , 3402)	GeographicSystem	=	O	O	X	X	O	X	X	X
(4 , 3402) / (4 , 3403)	LatitudeResolution	+	O	O	X	X	O	X	X	X
(4 , 3402) / (4 , 3404)	LongitudeResolution		O	O	X	X	O	X	X	X
(4 , 3116)	GPolygon	=	O	O	O	O	O	X	X	X
(4 , 3116) / (4 , 3117)	GPolygonOuterGRing	+	O	O	O	O	O	X	X	X
(4 , 3116) / (4 , 3120)	0 { GPolygonExclusionGRing } n		O	O	O	O	O	X	X	X
(4 , 3120)	GPolygonExclusionGRing	=	O	O	O	O	O	X	X	X
(4 , 3120) / (4 , 4071)	3 { Point } n		O	O	O	O	O	X	X	X
(4 , 3117)	GPolygonOuterGRing	=	O	O	O	O	O	X	X	X
(4 , 3117) / (4 , 4071)	3 { Point } n		O	O	O	O	O	X	X	X
(4 , 3432)	GridCoordinateSystem	=	O	O	X	X	O	X	X	X
(4 , 3432) / (4 , 3433)	GridCoordinateSystemName	+	O	O	X	X	O	X	X	X
(4 , 3432) / (4 , 4032)	(GridCoordinateSystemDescription)		O	O	X	X	O	X	X	X
(4 , 3401)	HorizontalCoordinateSystem	=	O	O	X	X	O	X	X	X
(4 , 3401) / (4 , 3402)	[GeographicSystem	|	O	O	X	X	O	X	X	X
(4 , 3401) / (4 , 3406)	PlanarSystem]		O	O	X	X	O	X	X	X
(4 , 4036)	IncludedRegCollectionDescriptors	=	O	O	O	X	X	X	X	O
(4 , 4036) / (4 , 12)	1 { ItemDescriptorId } n	15	O	O	O	X	X	X	X	O
(4 , 4034)	IncludedItemDescriptors	16 =	O	O	O	X	X	X	X	O
(4 , 4034) / (4 , 4036)	0 { IncludedRegCollectionDescriptors } 1	17 +	O	O	O	X	X	X	X	O
(4 , 4034) / (4 , 4037)	0 { IncludedUnregCollectionDescriptors } 1	18 +	O	O	O	X	X	X	X	O
(4 , 4034) / (4 , 4035)	0 { IncludedProductDescriptors } 1	19	X	X	X	X	X	X	X	X
(4 , 4035)	IncludedProductDescriptors	19 =	X	X	X	X	X	X	X	X
(4 , 4035) / (4 , 12)	1 { ItemDescriptorId } n	19	X	X	X	X	X	X	X	X

Tag Path	Element Name	Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4037)	IncludedUnregCollectionDescriptors	O	O	O	X	X	X	X	O
(4 , 4037) / (4 , 12)	1 { ItemDescriptorId } n 20 =	O	O	O	X	X	X	X	O
(4 , 4038)	Instrument	O	O	X	X	X	X	X	X
(4 , 4038) / (4 , 4039)	InstrumentId	O	O	X	X	X	X	X	X
(4 , 4038) / (4 , 4040)	(InstrumentName)	O	O	X	X	X	X	X	X
(4 , 4038) / (4 , 4111)	0 { Sensor } n	O	O	X	X	X	X	X	X
(4 , 3121)	Keywords	O	O	X	O	X	X	X	X
(4 , 3121) / (4 , 3122)	ThemeKeywords	O	O	X	O	X	X	X	X
(4 , 3121) / (4 , 2061)	0 { SpatialKeywords } n	O	O	X	O	X	X	X	X
(4 , 3121) / (4 , 3131)	0 { TemporalKeywords } n	O	O	X	O	X	X	X	X
(4 , 3121) / (4 , 2058)	0 { GeneralKeyword } n	O	O	X	X	X	X	X	X
(4 , 4046)	LocalAttribute	O	X	X	X	X	X	O	X
(4 , 4046) / (4 , 4005)	0 { AttributeSetId } 1 21 +	O	X	X	X	X	X	O	X
(4 , 4046) / (4 , 4047)	LocalAttributeId	O	X	X	X	X	X	O	X
(4 , 4046) / (4 , 4049)	LocalAttributeName	O	X	X	X	X	X	O	X
(4 , 4046) / (4 , 4050)	LocalAttributeShortMeaning	O	X	X	X	X	X	O	X
(4 , 4046) / (4 , 4052)	LocalAttributeValueSyntax	O	X	X	X	X	X	O	X
(4 , 4046) / (4 , 4051)	1 { LocalAttributeStructure } n	O	X	X	X	X	X	O	X
(4 , 4046) / (4 , 4048)	LocalAttributeMeaning	O	X	X	X	X	X	O	X
(4 , 4051)	LocalAttributeStructure	O	X	X	X	X	X	O	X
(4 , 4051) / (4 , 4005)	AttributeSetId	O	X	X	X	X	X	O	X
(4 , 4051) / (4 , 4116)	StructureAttributeId	O	X	X	X	X	X	O	X
(4 , 4053)	Locality	O	O	X	X	X	X	X	X
(4 , 4053) / (4 , 4055)	LocalityType	O	O	X	X	X	X	X	X
(4 , 4053) / (4 , 4054)	LocalityDescription	O	O	X	X	X	X	X	X
(4 , 4056)	LocalProductUseAttributes	O	X	X	X	X	X	O	X
(4 , 4056) / (4 , 4005)	AttributeSetId	O	X	X	X	X	X	O	X
(4 , 4056) / (4 , 4046)	1 { LocalAttribute } n	O	X	X	X	X	X	O	X
(4 , 4057)	LocalSchemaElements	O	X	X	X	X	X	O	X
(VAR ,VAR) / (VAR , VAR)	1 { VARIABLE } n 22 =	O	X	X	X	X	X	O	X
(4 , 3407)	MapProjection	O	O	X	X	O	X	X	X
(4 , 3407) / (4 , 3408)	MapProjectionName	O	O	X	X	O	X	X	X
(4 , 3407) / (4 , 4059)	(MapProjectionDescription)	O	O	X	X	O	X	X	X

Tag Path	Element Name		Element Set Name							
			Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 3406)	PlanarSystem	=	O	O	X	X	O	X	X	X
(4 , 3406) / (4 , 3407)	[MapProjection	|	O	O	X	X	O	X	X	X
(4 , 3406) / (4 , 3432)	GridCoordinateSystem]		O	O	X	X	O	X	X	X
(4 , 4070)	Platform	=	O	O	X	X	X	X	X	X
(4 , 4070) / (4 , 4060)	MissionId	+	O	O	X	X	X	X	X	X
(4 , 4070) / (4 , 4038)	0 { Instrument	} n	O	O	X	X	X	X	X	X
(4 , 4071)	Point	=	O	O	O	O	O	X	X	X
(4 , 4071) / (4 , 3118)	Latitude	+	O	O	O	O	O	X	X	X
(4 , 4071) / (4 , 3119)	Longitude		O	O	O	O	O	X	X	X
(4 , 4072)	Processing	=	O	O	X	X	X	X	X	X
(4 , 4072) / (4 , 4073)	0 { ProcessingCentre	} 1 ²³	O	O	X	X	X	X	X	X
(4 , 4072) / (4 , 4074)	ProcessingLevel	+	O	O	X	X	X	X	X	X
(4 , 4074)	ProcessingLevel	=	O	O	X	X	X	X	X	X
(4 , 4074) / (4 , 4076)	ProcessingLevelId	+	O	O	X	X	X	X	X	X
(4 , 4074) / (4 , 4075)	ProcessingLevelDescription		O	O	X	X	X	X	X	X
(4 , 4078)	ProductCollectionSpecific	=	O	O	O	O	O	O	O	X
(4 , 4078) / (4 , 4004)	1 { ArchivingCentreId	} n ²⁴	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 4016)	0 { CatalogueId	} 1 ²⁴	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 4061)	0 { OrderingCentreId	} 1 ²⁵	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 4026)	0 { DataOriginator	} 1 ²⁶	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 2062)	1 { TemporalCoverage	} n ²⁴	O	O	O	O	O	X	X	X
(4 , 4078) / (4 , 4119)	(TemporalResolution) ⁺	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 2059)	1 { SpatialCoverage	} n ²⁴	O	O	O	O	O	X	X	X
(4 , 4078) / (4 , 4115)	(SpatialResolution) ⁺	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 4125)	0 { VerticalExtent	} 1 ²⁷	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 3400)	0 { SpatialReference	} 1 ²⁸	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 4107)	0 { Scale	} 1 ²⁹	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 3805)	GeospatialForm	+	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 4072)	Processing	+	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 1031)	(StorageMedium) ⁺	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 4027)	(DeliveredAlgorithmPackage) ⁺	O	O	X	X	X	X	X	X
(4 , 4078) / (4 , 3137)	0 { Browse	} n ³⁰	O	O	X	O	O	O	X	X
(4 , 4078) / (4 , 4084)	0 { ProductServiceOptions	} 1 ³⁰	O	O	X	X	X	O	X	X
(4 , 4078) / (4 , 4058)	LocalUseAttributesFlag	+	O	O	X	X	X	X	O	X
(4 , 4078) / (4 , 4056)	0 { LocalProductUseAttributes	} 1 ³¹	O	X	X	X	X	X	O	X
(4 , 4078) / (4 , 4086)	(QACollectionStatistics	)	O	O	X	X	X	X	X	X

Tag Path	Element Name		Element Set Name							
			Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4079)	ProductDeliveryOptions	=	O	O	X	X	X	O	X	X
(4 , 4079) / (4 , 2004)	0 { AccessConstraints	} 1 ³²	O	O	X	X	X	O	X	X
(4 , 4079) / (4 , 4042)	ItemDeliveryMethod	+	O	O	X	X	X	O	X	X
(4 , 4079) / (4 , 3632)	ProductMedium	+	O	O	X	X	X	O	X	X
(4 , 4079) / (4 , 3614)	0 { ItemSize	} 1 ³³	O	O	X	X	X	O	X	X
(4 , 4079) / (4 , 3608)	ProductFormat	+	O	O	X	X	X	O	X	X
(4 , 4079) / (4 , 3613)	0 { ProductCompression	} 1 ³⁴	O	O	X	X	X	O	X	X
(4 , 4081)	ProductOrderOptions	³⁵ =	O	O	X	X	X	O	X	X
(4 , 4081) / (4 , 4033)	(GroupId	) +	O	O	X	X	X	O	X	X
(4 , 4081) / (4 , 4079)	1 { ProductDeliveryOptions	} n +	O	O	X	X	X	O	X	X
(4 , 4081) / (4 , 4077)	1 { ProcessingType	} n +	O	O	X	X	X	O	X	X
(4 , 4081) / (4 , 4083)	1 { ProductProcessingOptions	} n +	O	O	X	X	X	O	X	X
(4 , 4081) / (4 , 4108)	1 { SceneSelectionOptions	} n	O	O	X	X	X	O	X	X
(4 , 4083)	ProductProcessingOptions	=	O	O	X	X	X	O	X	X
(4 , 4083) / (4 , 4082)	ProductProcessingOption	+	O	O	X	X	X	O	X	X
(4 , 4083) / (4 , 4096)	(RelatedGuidePointers	) ³⁶	O	O	X	X	X	O	X	X
(4 , 4084)	ProductServiceOptions	=	O	O	X	X	X	O	X	X
(4 , 4084) / (4 , 4081)	0 { ProductOrderOptions	} n	O	O	X	X	X	O	X	X
(4 , 4086)	QACollectionStatistics	³⁷ =	O	O	X	X	X	X	X	X
(4 , 4086) / (4 , 4091)	0 { QAQualityExplanation	} 1 +	O	O	X	X	X	X	X	X
(4 , 4086) / (4 , 4092)	0 { QARating	} 1	O	O	X	X	X	X	X	X
(4 , 4090)	QAProductStatistics	³⁸ =	O	O	X	X	X	X	X	X
(4 , 4090) / (4 , 4087)	0 { QAPercentInterpolatedData	} 1 +	O	O	X	X	X	X	X	X
(4 , 4090) / (4 , 4088)	0 { QAPercentMissingData	} 1 +	O	O	X	X	X	X	X	X
(4 , 4090) / (4 , 4089)	0 { QAPercentOutOfBoundsData	} 1 +	O	O	X	X	X	X	X	X
(4 , 4090) / (4 , 3234)	0 { QAPercentCloudCover	} 1	O	O	X	X	X	X	X	X
(4 , 4094)	RelatedCollectionDescriptors	=	O	O	O	O	X	X	X	O
(4 , 4094) / (4 , 4097)	1 { RelatedItemDescriptor	} n	O	O	O	O	X	X	X	O
(4 , 4095)	RelatedGuidePointer	=	O	O	O	O	X	O	X	O
(4 , 4095) / (4 , 4121)	URLPointer	+	O	O	O	O	X	O	X	O
(4 , 4095) / (4 , 4099)	(RelationDescription	)	O	O	O	O	X	O	X	O
(4 , 4096)	RelatedGuidePointers	=	O	O	O	O	X	O	X	O
(4 , 4096) / (4 , 4095)	1 { RelatedGuidePointer	} n	O	O	O	O	X	O	X	O

Tag Path	Element Name		Element Set Name							
			Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4097)	RelatedItemDescriptor	=	O	O	O	O	X	X	X	O
(4 , 4097) / (4 , 12)	ItemDescriptorId	+	O	O	O	O	X	X	X	O
(4 , 4097) / (4 , 4099)	(RelationDescription )	)	O	O	O	O	X	X	X	O
(4 , 4098)	RelatedItemDescriptors	³⁹ =	O	O	O	O	X	X	X	O
(4 , 4098) / (4 , 4094)	0 { RelatedCollectionDescriptors }	1 +	O	O	O	O	X	X	X	O
(4 , 4098) / (4 , 4096)	0 { RelatedGuidePointers }	1	O	O	O	O	X	X	X	O
(4 , 4100)	Reprocessing	⁴⁰ =	O	O	X	X	X	X	X	X
(4 , 4100) / (4 , 4101)	0 { ReprocessingActual }	1 +	O	O	X	X	X	X	X	X
(4 , 4100) / (4 , 4102)	0 { ReprocessingPlanned }	1	O	O	X	X	X	X	X	X
(4 , 4103)	Review	=	O	O	X	X	X	X	X	X
(4 , 4103) / (4 , 4109)	0 { ScienceReview }	ⁿ +	O	O	X	X	X	X	X	X
(4 , 4103) / (4 , 3703)	0 { FutureReviewDate }	1 ⁴¹	O	O	X	X	X	X	X	X
(4 , 4104)	Revision	=	O	O	X	X	X	X	X	X
(4 , 4104) / (4 , 4023)	CreationDate	+	O	O	X	X	X	X	X	X
(4 , 4104) / (4 , 3109)	0 { UpdateFrequency }	1 ⁴² +	O	O	X	X	X	X	X	X
(4 , 4104) / (4 , 4105)	0 { RevisionDate }	ⁿ	O	O	X	X	X	X	X	X
(4 , 4109)	ScienceReview	=	O	O	X	X	X	X	X	X
(4 , 4109) / (4 , 3702)	ScienceReviewDate	+	O	O	X	X	X	X	X	X
(4 , 4109) / (4 , 4110)	ScienceReviewStatus		O	O	X	X	X	X	X	X
(4 , 4111)	Sensor	=	O	O	X	X	X	X	X	X
(4 , 4111) / (4 , 4112)	SensorId	+	O	O	X	X	X	X	X	X
(4 , 4111) / (4 , 4114)	(SensorName)	+	O	O	X	X	X	X	X	X
(4 , 4111) / (4 , 4113)	0 { SensorMode }	ⁿ +	O	O	X	X	X	X	X	X
(4 , 4111) / (4 , 4007)	0 { Band }	ⁿ)	O	O	X	X	X	X	X	X
(4 , 2059)	SpatialCoverage	=	O	O	O	O	O	X	X	X
(4 , 2059) / (4 , 2060)	[BoundingRectangle	|	O	O	O	O	O	X	X	X
(4 , 2059) / (4 , 3116)	GPolygon	|	O	O	O	O	O	X	X	X
(4 , 2059) / (4 , 4017)	1 { Circle }	ⁿ |	O	O	O	O	O	X	X	X
(4 , 2059) / (4 , 4071)	1 { Point }	ⁿ |	O	O	O	O	O	X	X	X
(4 , 2059) / (4 , 4127)	WRSGRSScene	|	O	O	O	O	O	X	X	X
(4 , 2059) / (4 , 4126)	WRSGRSPass	]	O	O	O	O	O	X	X	X
(4 , 2061)	SpatialKeywords	=	O	O	X	O	X	X	X	X
(4 , 2061) / (4 , 2043)	SpatialKeywordsThesaurus	+	O	O	X	O	X	X	X	X
(4 , 2061) / (4 , 4124)	VersionId	+	O	O	X	X	X	X	X	X
(4 , 2061) / (4 , 2042)	1 { SpatialKeyword }	ⁿ	O	O	X	O	X	X	X	X

Tag Path	Element Name	Element Set Name							
		Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 3400)	SpatialReference	⁴³ =	O	O	X	X	O	X	X
(4 , 3400) / (4 , 3401)	0 { HorizontalCoordinateSystem	} 1 +	O	O	X	X	O	X	X
(4 , 3400) / (4 , 3466)	0 { VerticalCoordinateSystem	} 1	O	O	X	X	O	X	X
(4 , 2062)	TemporalCoverage	=	O	O	O	O	O	X	X
(4 , 2062) / (4 , 3906)	[TemporalRange	|	O	O	O	O	O	X	X
(4 , 2062) / (4 , 4118)	TemporalPeriod	]	O	O	O	O	O	X	X
(4 , 3131)	TemporalKeywords	=	O	O	X	O	X	X	X
(4 , 3131) / (4 , 3132)	TemporalKeywordsThesaurus	+	O	O	X	O	X	X	X
(4 , 3131) / (4 , 4124)	VersionId	+	O	O	X	X	X	X	X
(4 , 3131) / (4 , 2045)	1 { TemporalKeyword }	n	O	O	X	O	X	X	X
(4 , 4118)	TemporalPeriod	⁴⁴ =	O	O	O	O	O	X	X
(4 , 4118) / (4 , 4069)	(PeriodName	) +	O	O	O	O	O	X	X
(4 , 4118) / (4 , 2072)	StartDate	+	O	O	O	O	O	X	X
(4 , 4118) / (4 , 4068)	PeriodDurationUnit	+	O	O	O	O	O	X	X
(4 , 4118) / (4 , 4067)	PeriodDuration	+	O	O	O	O	O	X	X
(4 , 4118) / (4 , 4066)	PeriodCycleUnit	+	O	O	O	O	O	X	X
(4 , 4118) / (4 , 4065)	PeriodCycle		O	O	O	O	O	X	X
(4 , 3906)	TemporalRange	=	O	O	O	O	O	X	X
(4 , 3906) / (4 , 2072)	StartDate	+	O	O	O	O	O	X	X
(4 , 3906) / (4 , 2073)	0 { EndDate }	} 1 ⁴⁵	O	O	O	O	O	X	X
(4 , 3122)	ThemeKeywords	=	O	O	X	O	X	X	X
(4 , 3122) / (4 , 2036)	ThemeKeywordsThesaurus	+	O	O	X	O	X	X	X
(4 , 3122) / (4 , 4124)	VersionId	+	O	O	X	X	X	X	X
(4 , 3122) / (4 , 2002)	1 { ThemeKeyword }	n	O	O	X	O	X	X	X
(4 , 3466)	VerticalCoordinateSystem	=	O	O	X	X	O	X	X
(4 , 3466) / (4 , 3467)	AltitudeSystem	+	O	O	X	X	O	X	X
(4 , 3466) / (4 , 3472)	DepthSystem		O	O	X	X	O	X	X
(4 , 4125)	VerticalExtent	=	O	O	X	X	X	X	X
(4 , 4125) / (4 , 4030)	ElevationMinimum	+	O	O	X	X	X	X	X
(4 , 4125) / (4 , 4029)	ElevationMaximum		O	O	X	X	X	X	X
(4 , 4126)	WRSGRSPass	=	O	O	O	O	O	X	X
(4 , 4126) / (4 , 4120)	Track	+	O	O	O	O	O	X	X
(4 , 4126) / (4 , 4031)	1 { Frame }	n	O	O	O	O	O	X	X
(4 , 4126) / (4 , 4063)	PassType		O	O	O	O	O	X	X

Tag Path	Element Name	Element Set Name							
		Full	CIP F	Brief	Sum.	Br.	Opt.	LA	CM
(4 , 4127)	WRSGRSScene Track Frame	=	O	O	O	O	X	X	X
(4 , 4127) / (4 , 4120)		+	O	O	O	O	X	X	X
(4 , 4127) / (4 , 4031)			O	O	O	O	X	X	X

¹ IncludedItemDescriptors is mandatory if a collection descriptor includes item descriptors.

² RelatedItemDescriptors is mandatory if item descriptors or guide pointers are related to the collection descriptor.

³ DataCentre is mandatory for an archive collection.

⁴ Locality is mandatory for event-based theme collection (e.g. when a theme collection is defined according to a compound time/space theme).

⁵ ExternalPublicationCitation is mandatory if external publications regarding the collection exist.

⁶ VerticalExtent is mandatory if the product described has vertical measurements (elevation minimum and maximum).

⁷ Scale is mandatory if the product described has a scale (e.g. map).

⁸ OrderingCentreId is mandatory if the product described by the product descriptor can be ordered.

⁹ ProcessingCentre is mandatory if it is different than the ArchivingCentreId (which is either specified in the product descriptor or in the archive collection in which the product descriptor is included).

¹⁰ ProductServiceOptions are mandatory if options (such as ordering options) are specified for the product.

¹¹ LocalSchemaElements is mandatory if local attributes are defined for the product descriptor and the local attributes for the product descriptor are defined directly in the collection descriptor rather than in the Explain database.

¹² RelatedItemDescriptors is mandatory if additional information about the products described by the product descriptors included in the collection is available in a related collection (RelatedCollectionDescriptors) or guide document (RelatedGuidePointers).

¹³ BrowseData is mandatory only when the actual browse data itself is required (i.e. when the ‘Br’ *element set* is requested). For this reason, this *schema element* is not selected in the ‘Full’ *element set* (because it should not be included in the *schema* in that case).

¹⁴ BrowseCompression is mandatory if the browse data is compressed.

¹⁵ ItemDescriptorId must refer to a registered collection, i.e. a collection stored in the collections database (see Appendix E.3 for the format of registered collection descriptor identifiers).

¹⁶ For CIP Release B, as mixed collections are not allowed, only one type of members may be included, i.e. either collection or product descriptors. However, a collection may include both registered and unregistered collections.

¹⁷ IncludedRegCollectionDescriptors is mandatory if registered collection descriptors (i.e. collections which are managed by an agency) are included in the collection.

¹⁸ IncludedUnregCollectionDescriptors is mandatory if unregistered collection descriptors (i.e. collections which are managed by a user) are included in the collection.

¹⁹ Because of the potential very high number of product descriptors which may be included in a collection, IncludedProductDescriptors is **never** applicable and should therefore **never** be returned.

IncludedProductDescriptors is searchable, but not retrievable. The retrieval of the product descriptors included in a collection is performed via a product search. This is because of the impracticability of the retrieval of a potentially very large amount of product descriptor identifiers.

²⁰ ItemDescriptorId must refer to an unregistered collection, i.e. it must be the task package name of a persistent result set or persistent query (see Appendix E.8 for the format of task package names).

²¹ AttributeSetId is mandatory if the local attribute is defined in another *attribute set* than the *attribute set* which was set as the default *attribute set* for the local attributes in LocalProductUseAttributes.

²² The local *schema elements* are not defined in the CIP *Schema*. The list of the local *schema elements* to be included in LocalSchemaElements is defined dynamically and corresponds to the list of LocalAttribute defined in the collection descriptor (in the LocalProductUseAttributes compound) which owns the retrieved product descriptor. For each local *schema element*, the appropriate information is determined as follows:

- the name of the local *schema element* corresponds to the LocalAttributeName of the LocalAttribute.

-
- the *tag type* of the local *schema element* corresponds to the *type* assigned to the AttributeSetId in which the corresponding LocalAttribute is defined.

- The *tag number* of the local *schema element* corresponds to the LocalAttributeId of the LocalAttribute.

²³ ProcessingCentre is mandatory if it is different than the archiving centre.

²⁴ CatalogueId is mandatory if the collection is an archive collection and therefore contains product descriptor which are located in a catalogue.

²⁵ OrderingCentreId is mandatory if the products included in the collection are orderable and the collection is an archive collection.

²⁶ DataOriginator is mandatory for collections containing products from a single data originator, i.e. archive collections or theme collections including products from a single data originator.

²⁷ VerticalExtent is mandatory if the collection described has vertical measurements (elevation minimum and maximum).

²⁸ SpatialReference is mandatory for archive collections.

²⁹ Scale is mandatory if the products included in the collection described have a common scale (e.g. map).

³⁰ ProductServiceOptions is mandatory if the collection is a registered archive collection.

³¹ LocalProductUseAttributes is mandatory if local attributes are defined for the product descriptors included in the collection and the local attributes for the product descriptors are defined directly in the collection descriptor rather than in the *Explain database*.

³² The access constraints contain an explanation regarding constraints or dependencies that may be imposed on the use of the product delivery options. For example, a particular delivery method may be available only when specific processing options are selected.

³³ ItemSize is mandatory if all the products included in the collection have the same size.

³⁴ ProductCompression is mandatory if the product is compressed.

³⁵ Note that the CIP provide facilities to list the valid order options available for a product. However, the permissible combination of the options is outside the scope of the CIP and should be described via guide information.

³⁶ RelatedGuideDescriptors may be supplied to explain how the free text describing the processing option is to be interpreted.

³⁷ At least one of the QA collection statistics must be included.

³⁸ At least one of the QA product statistics must be included.

³⁹ RelatedItemDescriptors must contain either RelatedCollectionDescriptors, or RelatedGuidePointers, or both.

⁴⁰ Reprocessing must contain ReprocessingActual (which is mandatory if the product has been reprocessed), or ReprocessingPlanned (which is mandatory if future reprocessing is planned), or both.

⁴¹ FutureReviewDate is mandatory if the date of the future review is known.

⁴² UpdateFrequency is mandatory if the item descriptor is revised at regular intervals.

⁴³ SpatialReference must contain either the HorizontalCoordinateSystem, or the VerticalCoordinateSystem, or both.

⁴⁴ The following example illustrates the use of the TemporalPeriod temporal coverage for data gathered during the Spring season in the Northern hemisphere from 1995: PeriodName = "Spring - Northern hemisphere", StartDate = "1995:03:21", PeriodDurationUnit = "month", PeriodDuration = 3.0, PeriodCycleUnit = "year", PeriodCycle = 1.0.

⁴⁵ EndDate is mandatory if the temporal range is bounded, i.e. i.e. the end date of the range is known and fixed.